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The Added Value of Worldviews over Self-Views:  
Predicting Modest Behaviour in Eastern and Western Cultures

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### Abstract

Personality research has been focused on different aspects of the self, including traits, attitudes, beliefs, goals, and motivation. These aspects of the self are used to explain and predict social behaviour. The present research assessed generalised beliefs about the world, termed “social axioms” (Leung et al., 2002), and examined their additive power over beliefs about the self in explaining a communal behaviour, i.e., modesty. Three studies predicted reported modest behaviour among Mainland Chinese, Hong Kong Chinese, East-Asian Canadians, and European Canadians. In addition to self-reports in Studies 1 and 2, informant reports from participants’ parents and close friends were collected in Study 3 to construct a behavioural composite after examining the resulting multitrait-multimethod matrix and intraclass correlations. Worldviews (operationalised as social axioms) explained additional variance in modest behaviour over and above self-views (operationalised as self-efficacy, self-construals, and trait modesty) in both Eastern and Western cultures. Variation in reports on three factors of modest behaviour was found across self-, parent-, and friend-perspectives, with significant differences across perspectives in self-effacement and other-enhancement, but not in avoidance of attention-seeking.

*Keywords:* modest behaviour, social axioms, culture, multitrait-multimethod matrix, intraclass correlation

### The Added Value of Worldviews over Self-Views:

#### Predicting Modest Behaviour in Eastern and Western Cultures

Cultures differ in how individuals view the self (e.g., Markus & Kitayama, 1991; Triandis, 1989). In individualistic cultures, the self is characterised as autonomous and agentic; in collectivistic cultures, the self is characterised as connected and communal. Cultures also differ accordingly in how individuals behave: viewing the self as independent or interdependent is manifested in different behavioural styles. In individualistic cultures, people prioritise personal goals, emphasise unique attributes, and distinguish themselves from others; in collectivistic cultures, people share common goals, conform to social norms, and value interpersonal relationships.

Research findings have revealed that people generally have a strong need to view themselves positively (e.g., Taylor & Brown, 1988). The desire to obtain positive feedback from close others is evident in both Americans and Chinese (Gaertner, Sedikides, & Cai, 2012). The tactics of impression management may call for strategies that assert internal qualities of the self, leading to self-enhancing behaviour (e.g., Heine, 2001; Heine & Hamamura, 2007). Different strategies may be adopted to secure a positive self-view, such as downward social comparison (Festinger, 1954), compensatory self-enhancement (Baumeister & Jones, 1978), discounting (Simon, Greenberg, & Brehm, 1995), and externally attributing failures (Zuckerman, 1979).

Nevertheless, the tendency to promote the self varies across cultures, with higher levels in individualistic cultures but lower levels in collectivistic cultures (e.g., Kurman, 2001, 2003; Kurman, Yoshihara-Tanaka, & Elkoshi, 2003). Heine, Lehman, Markus, and Kitayama (1999) suggested that the need for positive self-regard is low in Japanese culture and that a self-critical, self-effacing orientation is more prevalent. An increasing number of studies has indicated that in collectivistic cultures, a modesty bias or an other-enhancement focus is more characteristic (e.g., Markus & Kitayama, 1991), and modest self-presentation is even a default position predisposed by cultural mandates (Yamagishi et al., 2012). As agentic behaviour may not always lead to

favourable outcomes but instead damage interpersonal relationships, over-emphasizing one's positive evaluations and attributions may carry certain social disadvantages (e.g., Carlson & Shovar, 1983; Paulhus, 1998). Modesty, especially as expressed behaviourally, may therefore be an especially important impression management technique in collectivistic cultures.

Chen, Bond, Chan, Tang, and Buchtel (2009) identified three factors of modest behaviour, viz., Self-Effacement, Other-Enhancement, and Avoidance of Attention-Seeking. Self-effacement refers to restraint in pursuing self-interest and under-representation of one's positive traits, contributions, and accomplishments. Other-enhancement denotes the expression of concern for others and elevation of others for purposes of ingratiation and relationship building. Avoidance of attention-seeking reflects one's tendency to actively avoid self-promotion and self-aggrandisement in public. These three factors reflect the multiple aspects of social behaviour, viz. personal (self-effacement), relational (other-enhancement), and public (avoidance of attention-seeking). As modest behaviour is not only shaped by different aspects of the self, such as traits, attitudes, values, goals, and motivation, but also affected by social factors that contextualise and "complexify" the expression of personality, we examine modest behaviour in cultural contexts and incorporate worldviews in addition to self-views as predictors of this communal behaviour.

### **Differentiating Worldviews from Self-Views**

Worldviews are a type of social belief that refers to one's perceptions about the world in which one functions (e.g., Koltko-Rivera, 2004; Leung et al., 2002), such as locus of control (Rotter, 1966) and locus of responsibility (Jones, 1972), belief in a just world (e.g., Lerner, 1980), and dangerous and competitive worldviews (Duckitt, Wagner, du Plessis, & Birum, 2002). In this research, we focus on a type of worldviews termed "social axioms", referring to "generalised beliefs about people, social groups, social institutions, the physical environment, or the spiritual world as well as about categories of events and phenomena in the social world" (Leung & Bond, 2008, p. 198).

While self-views represent beliefs and perceptions about oneself, social axioms reflect generalised expectancies. Rotter (1954) argued that behaviour is determined by expectations about its outcome and the value placed on that outcome, while Bandura (1977) further proposed that perception of one's ability and competence, i.e., self-efficacy, influences expectations about the outcome of situations, which differentiate self-views and outcome expectancies. Though it is difficult to disentangle the self from a social world, beliefs about the world out there are distinguishable from self-evaluations. Empirical studies using etic and emic personality measures revealed that the overlap between self-views and world-views was slight, suggesting that they are two distinct constructs (Chen, Bond, & Cheung, 2006; Chen, Fok, Bond, & Matsumoto, 2006).

Other evidence has demonstrated the incremental validity of social axioms over and above the self-concept in predicting outcomes of interest. Social axioms have been found to predict psychological outcomes such as vocational choices, methods of conflict resolution, and coping styles above and beyond values (Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004), ambivalence over emotional expression above and beyond personality traits (Chen, Cheung, Bond, & Leung, 2005), and life satisfaction above and beyond self-esteem and personality traits (Chen, Cheung, Bond, & Leung, 2006). While these studies adopted a within-culture design, we attempt to test the added value of social axioms over different self-views to predict modest behaviour across cultures.

The present research sampled four cultural groups varying in individualism and collectivism: European Canadians, East-Asian Canadians, Hong Kong Chinese, and Mainland Chinese. European and East-Asian Canadians are two ethnic groups with different degrees of acculturation to Western cultures. European Canadians are heavily influenced by individualistic norms and practices; East-Asian Canadians are negotiating both individualistic and collectivistic values and beliefs. Of the two Chinese groups, Mainland Chinese are typically perceived by social scientists as deeply rooted in Chinese cultural traditions, whereas Hong Kong Chinese are

regarded as more individualistic due to Hong Kong's colonial history under British rule (Chen, Benet-Martinez, & Bond, 2008). Thus, Western influences on these four cultural groups vary.

### **Social Axioms and Modest Behaviour**

In this research, we operationalised self-views in different ways: as self-efficacy, which represents beliefs about the self and judgments of personal capability (Bandura, 1977); and self-construals, which reflect cultural self-views and orientations as independent or interdependent (Markus & Kitayama, 1991). These two aspects of the self are especially relevant to social behaviours such as modesty. An independent self-view and perceived personal competence may prompt the individually oriented need to distinguish oneself from others, and were thus hypothesised to relate negatively to aspects of modest behaviour, especially self-effacement, across cultures. Conversely, an interdependent self-view prioritises social-oriented goals and concern about relationships with others, and was thus hypothesised to relate positively to aspects of modest behaviour, especially other-enhancement and avoidance of attention-seeking. Other than self-efficacy and self-construals, self-ratings of personality traits also reflect individuals' perception of the self and evaluation of one's own attributes. In this sense, they can be regarded as a type of self-views. Of particular relevance to this research is trait modesty, which is expected to predict modest behaviour positively.

In addition, we operationalised worldviews as social axioms, which refer to a pan-cultural five-factor structure of an individual's beliefs about the world based on multicultural studies over 40 cultures, i.e., Social Cynicism, Reward for Application, Social Complexity, Fate Control, and Religiosity (Leung et al., 2002; Leung & Bond, 2004, 2009). Of the five social axioms, reward for application, social complexity, and social cynicism were hypothesised to most strongly associate with modest behaviour.

Social cynicism denotes a gloomy view of human nature and social institutions (Leung et al., 2002). Hui and Hui (2009) reviewed studies on social cynicism and found it was associated mostly with negative psychological outcomes. They suggested that these results might arise

from disliking the self and other social beings. Social cynicism has been found to negatively predict self-esteem over time and across different age groups, viz., children, adolescents, and young adults (Chen et al., 2016; Lam, Bond, Chen, & Wu, 2010). It is also positively related to comparative self-criticism (perceiving others as making unreasonable demands on themselves) and to internalised self-criticism (holding highly unrealistic internalised standards). Both types of self-criticism are negative evaluations of the self (Thompson & Zuroff, 2004). Social cynics lack interpersonal trust and may not take the risk of aggrandizing themselves in front of others. We hypothesised that social cynicism would be related to self-effacement positively in both Eastern and Western cultures.

Reward for application refers to a belief that challenges and difficulties can be overcome by persistent efforts and that hard work will result in positive outcomes (Leung et al., 2002). It serves as a guiding principle for directing goal-related behaviour effectively. Since aspects of modest behaviour reflect the social goals of enhancing others and denigrating oneself to promote relationships, we hypothesised that reward for application would be related to modest behaviour positively, especially self-effacement and other-enhancement. These conscious efforts to work on interpersonal relationships deliberately are more characteristic in Eastern than Western cultures, as the cultural values of interpersonal harmony influence people's social behaviour and motivate them to engage in such endeavours.

Social complexity indicates believing in situationally driven variability of individual behaviour and multiple perspectives on social events (Leung et al., 2002). This social belief endorses the complexity of behaviour required to instantiate indirect routes to desirable outcomes like modest self-presentations. A positive relation between social complexity and modest behaviour, especially other-enhancement and avoidance of attention-seeking is therefore expected in Eastern cultures. These modest self-presentation strategies reflect collectivistic styles of indirectness and intricacy in high context cultures (Hall, 1976).

Religiosity represents beliefs in the existence of a supreme being and in the positive social



effects of religious practices and institutions (Leung et al., 2002). Both individualists and collectivists are likely to hold such religious beliefs, and believe in their positive influences. However, religious practices and activities involve congregations of people. Members of collectivistic cultures value harmonious interpersonal relationships, and may be more likely to elevate others, thereby engaging more in this form of modest behaviour. We thus hypothesised that religiosity would be positively related to other-enhancement in Eastern cultures.

Finally, fate control refers to a belief that life events are pre-determined and influenced by impersonal, external forces (Leung et al., 2002). Though positively correlated with external locus of control (Singelis, Hubbard, Her, & An, 2003), fate control encompasses more than fatedness. It also includes additional components of perceiving events as predictable and engaging in practices to alter one's fate (Leung et al., 2002). Since individuals believing in fate control perceive outcomes as predictable but may also act to change these outcomes, we do not advance any hypothesis concerning the direction in which this social belief would affect modest behaviour.

### **The Present Research**

The present research consisted of three studies. Study 1 investigated modest behaviour in Chinese contexts (Hong Kong and Mainland China) in which modesty is a prevalent norm, and tested the added value of worldviews over and above self-views in the prediction of modest behaviour. Study 2 continued to conduct such testing in a Western cultural context, Canada, using European and East-Asian Canadian samples. In Study 3, informant ratings were incorporated into the assessment of modest behaviour to include multiple perspectives on social behaviour.

Modest behaviour is a goal-directed self-presentation, which varies across contexts. Self- and other-ratings of personality and behaviour may reflect different aspects of the target being evaluated. We suggest using multitrait-multimethod (MTMM) analyses to examine the convergent and discriminant validity of behavioural profiles across self and informant ratings

and construct a behavioural composite as a criterion variable after testing their intraclass correlation coefficients (ICC). The MTMM approach developed by Campbell and Fiske (1959) has been used to validate personality inventories, but we can extend it to the examination of social behaviour. Correlations between a set of traits measured by different methods are arranged in a synthetic matrix. In this research, we use self and informant (i.e., parent, friend) ratings as multimethods and examine the convergent and discriminant validity of the three modest behaviour factors (i.e., self-effacement, other-enhancement, and avoidance of attention-seeking). ICC (Fisher, 1954) can also be employed to assess the degree to which multiple observers agree in their ratings. After reaching acceptable agreement among self-, parent-, and friend-ratings on the three factors of modest behaviour, we can derive a composite score for each factor representing multiple perspectives, and then predict the behavioural composite of modesty from self-views and worldviews.

Based on the above conceptualizations, we aim to test the following hypotheses:

Among the self-views, self-efficacy and independent self-construal would be negatively related to self-effacement across cultures, whereas interdependent self-construal would be positively related to other-enhancement and avoidance of attention-seeking. Trait modesty would also be related to modest behaviour positively.

Among the worldviews, social cynicism would be positively related to self-effacement in both Eastern and Western cultures; reward for application would be positively related to self-effacement and other-enhancement in Eastern cultures; social complexity would be positively related to other-enhancement and avoidance of attention-seeking in Eastern cultures; and religiosity would be positively related to other-enhancement in Eastern cultures.

### **Study 1**

Chen and colleagues (2009) developed a Modest Behaviour Scale (MBS) to assess behavioural manifestations of modesty, and validated the factor structure of modest behaviour by establishing its nomological network with trait modesty, traditionality and modernity, and

various domains of values. We continued to adopt the three-factor structure in the present study, but extended the nomological network of modest behaviour from self-views to worldviews. Our first study was conducted in two Chinese regions, i.e., Hong Kong and Beijing, China.

## Method

### Participants

A total of 405 university students (193 females) participated in this study, with 206 from the Chinese University of Hong Kong ( $M_{\text{age}} = 20.68$ ,  $SD = 1.39$ ) and 199 from Beijing Normal University, China ( $M_{\text{age}} = 20.52$ ,  $SD = 2.16$ ). All were invited to take part in the present study on a voluntary basis.

### Measures

Participants in Hong Kong and Beijing completed the following questionnaires in traditional and simplified Chinese characters, respectively. The equivalence of meaning on all items was ensured through consultations with bilinguals from Hong Kong and Mainland China.

*Modest Behaviour Scale* (MBS; Chen et al., 2009). Thirty items tapped three behavioural aspects of a modest self-presentation, viz., Self-Effacement (e.g., “Deny my own strengths in front of others”), Other-Enhancement (e.g., “Emphasise others’ contributions when I am praised”), and Avoidance of Attention-Seeking (e.g., “Avoid showing off in front of peers”). Responses were anchored on 5-point Likert scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Some items were formulated in the reverse direction to reduce acquiescent response set ( $\alpha = .75, .71, .68$  and  $.73, .84, .75$  for Mainland and Hong Kong Chinese, respectively).

*Worldviews.* The Social Axioms Survey (SAS) was designed by Leung and colleagues (2002) to assess generalised social beliefs. The scale consists of 60 items, with all responses anchored on a 5-point Likert scale, ranging from 1 (*strongly disbelieve*) to 5 (*strongly believe*). Since the pan-cultural factor structure of social axioms had been validated by multicultural studies (Leung and Bond, 2004; Leung et al., 2002) and with local Chinese samples (Hui & Hui,

2009), this study adopted the five factors as designated: Social Cynicism (e.g., “Powerful people tend to exploit others”), Reward for Application (e.g., “One will succeed if he/she really tries”), Social Complexity (e.g., “Human behaviour changes with the social context”), Fate Control (e.g., “All things in the universe have been determined”), and Religiosity (e.g., “Belief in a religion makes people good citizens”) ( $\alpha = .80, .76, .60, .59$ , and  $.71$  for the Mainland Chinese and  $.74, .69, .59, .61$ , and  $.83$  for Hong Kong Chinese, respectively) <sup>1</sup>.

*Self-Views.* 1) *General Self-Efficacy Scale.* A 10-item General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) was used to tap one’s perceived competence. Its Chinese version has been used in past studies (e.g., Chen et al., 2008). Responses were made on a 4-point scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). A sample item is, “I can always manage to solve difficult problems if I try hard enough” ( $\alpha = .81$  and  $.88$  for Mainland and Hong Kong Chinese, respectively). 2) *Self-Construal Scale.* Designed by Gudykunst, Matsumoto, Ting-Toomey, Nishida, Kim, and Heyman (1996), this scale assesses independent and interdependent views of the self. Following a derived-etic analysis across five cultural groups, Gudykunst et al. identified 14 items measuring independence in culturally equivalent ways (e.g., “I try not to depend on others”) and 15 items likewise identifying interdependence (e.g., “I consult with others before making important decisions”). Responses for both subscales were indicated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*) ( $\alpha = .76$  and  $.78$  for Mainland Chinese and  $.76$  and  $.77$  for Hong Kong Chinese, respectively).

## **Procedure**

The questionnaire sets were administered to the participants to complete privately. They also reported demographic information including age, gender, year and major of study. Instructions were given at the beginning of sessions, and confidentiality was ensured to encourage honest responding.

## **Results**

Descriptive statistics including means, standard deviations, and alphas of the variables for

Study 1 are presented in Table 1.

To examine the incremental contribution of social axioms over self-views in predicting modest behaviour, three sets of hierarchical regression analyses were conducted in turn on each of the three factors of modest behaviour (see Table 2). Demographic variables, including age, gender, and cultural group, were entered into the first block. In Chinese culture, modesty may vary in different age and gender groups, but since this is not the focus of the current research, we controlled for their possible effects in all three studies. The second block contained self-views, i.e., self-efficacy and independent and interdependent self-construals. Worldviews were entered into block 3 to evaluate their incremental predictive power, i.e., the five dimensions of social axioms. Though we did not have predictions on interaction effects, we examined whether culture moderated the effects of social axioms on modest behaviour. Interaction terms between cultural group and social axioms were computed and entered into block 4. Since none of the interaction effects was significant,  $ps > .05$ , we reported only the main effects in this section and in Table 2. We also examined tolerance statistic and variance inflation factor (VIF). They all fell within the acceptable range, indicating that multicollinearity was not present in these regression analyses.

*Self-effacement.* In predicting self-effacement, the sample multiple correlation coefficient was .45 and the model explained 20.1% of the total variance in self-effacement,  $F(11, 393) = 9.01, p < .001$ . Among the demographic variables, the effect of cultural group was significant, with Hong Kong Chinese more self-effacing than their Mainland counterparts. Consistent with our hypotheses, self-effacement was negatively related to self-efficacy and independent self-construal, but positively to social cynicism and reward for application. Worldviews explained significant variance in self-effacement over and above self-views.

*Other-enhancement.* In predicting other-enhancement, the sample multiple correlation coefficient was .48, indicating that the regression model accounted for 22.7% of the variance,  $F(11, 393) = 10.47, p < .001$ . The effects of gender and cultural group were significant, with males and Mainland Chinese more other-enhancing. As hypothesised, interdependence was

positively related to the criterion. Among the axioms, four factors made significant contributions over and above self-views, including reward for application, social complexity, social cynicism, and religiosity.

*Avoidance of attention-seeking.* In the third multiple regression, the sample multiple correlation coefficient was .38, and 14.5% of the variance in avoidance of attention-seeking was explained by the predictors,  $F(11, 393) = 6.06, p < .001$ . The effects of gender and cultural group were significant, with males and Mainland Chinese more likely to avoid seeking attention. The criterion was positively related to interdependence but negatively to self-efficacy, supporting our hypotheses. Three axiom factors made significant contributions, including social cynicism, social complexity, and religiosity.

In sum, after controlling for age, gender, and cultural group, self-views made significant contributions to predicting modest behaviour. Specifically, self-efficacy negatively predicted self-effacement and avoidance of attention-seeking. The two self-construals were related to different factors of modest behaviour, with independent self-construal negatively predicting self-effacement and interdependent self-construal positively predicting other-enhancement and avoidance of attention-seeking. Overall, worldviews contributed to modest behaviour above and beyond self-views. Social cynicism positively predicted self-effacement, and negatively predicted other-enhancement and avoidance of attention-seeking. Reward for application predicted self-effacement and other-enhancement positively. Both social complexity and religiosity predicted other-enhancement and avoidance of attention-seeking positively.

## Study 2

In Study 1, one's beliefs about the social world significantly predict one's tendencies to show different types of modest behaviour among Mainland and Hong Kong Chinese. However, China is a collectivistic society, where it may be expected that factors outside of the self strongly affect one's behaviour. Would this effect extend to an individualistic society such as Canada? In Study 2, we carried out similar analyses among European- and Asian-Canadians to test the

importance of social beliefs in predicting modest behaviour. The second study was conducted in Vancouver, where we recruited participants born in Canada to represent the central characteristics of persons raised in individualistic cultures. In this study, participants with Eastern Asian or European descent were included to examine cultural variation.

## Method

### Participants

A total of 156 university students (116 females) from the University of British Columbia participated in the second study. Of these, 79 were East Asians ( $M_{\text{age}} = 19.78$ ,  $SD = 1.59$ ) and 77 were European Canadians ( $M_{\text{age}} = 21.51$ ,  $SD = 5.10$ ). All were born in Canada. They were invited to take part in this study on a voluntary basis.

### Measures

Instruments were as in Study 1, except that the Modest Behaviour Scale was revised (see below). All instruments were completed in English.

*Revised Modest Behaviour Scale.* The Modest Behaviour Scale used in Study 1 was derived from Chinese samples. To avoid an ‘imposed etic’ analysis of behaviour (Berry, 1969, 1989), a ‘derived-etic’ approach was adopted by conducting a pilot study to generate ‘emic’ items representing a modest behavioural style from Canadians, so as to develop an integrated measure across individualistic and collectivistic cultures (Chen et al., 2009). As a result, nine new items were generated, so that a total of 39 items, including the 30 items from Study 1, were administered in Study 2. A sample new item is, “Encourage someone else to take the lead.”

Responses were anchored on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). As in Chen et al. (2009), an exploratory factor analysis revealed a three-factor solution for the factors of self-effacement, other-enhancement, and avoidance of attention-seeking ( $\alpha = .71$ ,  $.67$ , and  $.70$  for East-Asian Canadians and  $.67$ ,  $.72$ , and  $.71$  for European Canadians, respectively).

Other scales were the same as in Study 1, including the *Social Axioms Survey* (Leung et

al., 2002) as worldviews, and the *General Self-Efficacy Scale* (Schwarzer & Jerusalem, 1995), and the *Self-Construal Scale* (Gudykunst et al., 1996) as self-views.

### Procedure

Same as Study 1.

### Results

Descriptive statistics including means, standard deviations, and reliability coefficients of the variables for Study 2 are presented in Table 3.

#### *Predicting Modest Behaviour*

As in Study 1, three sets of hierarchical regression analyses were conducted to predict the three factors of modest behaviour (see Table 4). Block 1 contained demographic variables, including age, gender, and cultural group. Self-views were entered into block 2, i.e., self-efficacy, independent and interdependent self-construals. Five dimensions of social axioms and their interactions with cultural group were entered into blocks 3 and 4, respectively. Since none of the interaction effects was significant,  $ps > .05$ , only main effects were reported in this section and Table 4. We also examined tolerance statistic and VIF. They all fell within the acceptable range, indicating that multicollinearity was not present in these regression analyses.

*Self-effacement.* In predicting self-effacement, the sample multiple correlation coefficient was .49 and the model explained 23.5% of the total variance in self-effacement,  $F(11, 144) = 4.03$ ,  $p < .001$ . None of the demographic variables yielded significant effects,  $ps > .05$ . As in Study 1, self-effacement was positively related to interdependent self-construal but negatively to self-efficacy, supporting our hypotheses. Also as in Study 1, social cynicism made a significant contribution over and above self-views.

*Other-enhancement.* In predicting other-enhancement, the sample multiple correlation coefficient was .52, indicating that the regression model accounted for 27.0% of the variance,  $F(11, 144) = 4.85$ ,  $p < .001$ . Again, the effects of demographic variables were not significant,  $ps > .05$ . Interdependent self-construal was positively related to the criterion. Fate control made a



significant contribution over and above self-views.

*Avoidance of attention-seeking.* The sample multiple correlation coefficient was .44 for the third regression, and 19.2% of the variance in avoidance of attention-seeking was explained by the predictors,  $F(1, 144) = 3.10, p < .01$ . Among the demographic variables, the effect of gender was significant, with females more likely to avoid seeking attention. The criterion was negatively related to self-efficacy significantly, but positively to interdependent self-construal marginally. In addition to self-views, the effect of fate control was significant.

In sum, after controlling for age, gender, and cultural group, self-views made significant contributions to modest behavior. Self-efficacy negatively predicted self-effacement and avoidance of attention-seeking; interdependent self-construal positively predicted self-effacement and other-enhancement. Among the worldview predictors, two axioms contributed to modest behaviour over and above self-views. Social cynicism positively predicted self-effacement, and fate control negatively predicted other-enhancement and avoidance of attention-seeking.

### Study 3

Studies 1 and 2 confirmed the added value of worldviews to self-views in predicting self-rated modest behaviour in different cultural contexts. Do one's worldviews and self-views also predict one's behaviour as rated by other informants? Study 3 tested the effects of self-views and worldviews on behavioural profiles of modesty by asking one of participants' parents and one of their close friends to rate participants' modest behaviour, thus incorporating social perspectives in assessing the criterion variables. As the self-views used in Studies 1 and 2 (i.e., self-efficacy and interdependent / independent self-construal) did not measure modesty directly, we included the self-rated *Modesty Subscale of the Revised NEO Personality Inventory* (Costa & McCrae, 1992) in Study 3, which can be regarded as self-perception of modesty trait. If social axioms could still significantly predict modest behaviour when the effect of trait modesty was controlled for, the incremental predictive validity of worldviews over self-views would be even more

robust.

## Method

### Participants

A total of 173 university students participated in this study, with 98 of them from the Chinese University of Hong Kong (73.47% females,  $M_{\text{age}} = 20.24$ ,  $SD = 1.75$ ) and 75 of them from Peking University, China (78.67% females,  $M_{\text{age}} = 21.91$ ,  $SD = 2.74$ ). For each student, one of their parents (for Hong Kong and Mainland China samples, respectively, 81.63% mothers,  $M_{\text{age}} = 49.13$ ,  $SD = 5.04$ ; and 56.0% mothers,  $M_{\text{age}} = 49.11$ ,  $SD = 4.07$ ) and one of their close friends (68.37% females,  $M_{\text{age}} = 20.34$ ,  $SD = 1.88$ ; 65.33% females,  $M_{\text{age}} = 22.11$ ,  $SD = 2.89$  for Hong Kong and Mainland China samples, respectively) also filled out questionnaires.

### Measures

Questionnaires were administered in traditional and simplified Chinese characters to Hong Kong and Mainland Chinese participants, respectively. The instruments used in this study were similar to those of Study 2, including the *Revised Modest Behaviour Scale* (Chen et al., 2009) and the *Social Axioms Survey* (Leung et al., 2002).

**Self-view.** The *Modesty Subscale of the Revised NEO Personality Inventory* (Costa & McCrae, 1992) was used among Chinese in past studies (e.g., Chen et al., 2009). Eight items assessing the modesty facet under the Agreeableness factor were selected (e.g., “I feel that I am no better than others, no matter what their condition”). These items were rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In this study, the alphas were .64 and .68 for Hong Kong and Mainland Chinese, respectively.

### Procedure

The questionnaire sets were administered separately to the participants and their close friend, and their parent's report was collected by mail. Participants were instructed to rate themselves on the above instruments, while their parent and close friend rated the participant on the same set of instruments. Participants also reported demographic information including age,

gender, year and major of study. Confidentiality was ensured to encourage honest responding.

### Results

The MTMM correlation matrix for three factors of modest behaviour within and between self-, parent-, and friend-reports, including means, standard deviations, and alphas of the variables are shown in Table 5. Hong Kong Chinese and Mainland Chinese data were combined, since a series of comparisons on MTMM correlation coefficients between Hong Kong Chinese and Mainland Chinese showed no significant differences,  $ps > .05$ . We used the MTMM to examine relationships among the three factors of modest behaviour across three perspectives (i.e., self-, parent-, and friend-reports). The convergence of a modest behaviour factor across different perspectives (monotrait-heteromethod correlations) helps strengthen the interpretation of that factor as representing the underlying construct of modest behaviour. The divergence of the three factors, assessed with the same or different perspectives (heterotrait-monomethod or heterotrait-heteromethod correlations), is used to demonstrate that they can be discriminated and that those factors represent separate dimensions of modest behaviour. Following previous practice (Biesanz & West, 2004; Mearns, Patchett, & Catanzaro, 2009), Table 6 summarises the correlation matrix by presenting average correlations across self-, parent-, and friend-reports. Absolute values of correlations in Table 5 were used to compute these averages. To assess convergent and discriminant validity of the modest behaviour profile, classic criteria by Campbell and Fiske (1959) were used to guide evaluations.

First, in the present study, most of the monotrait-heteromethod correlations were significant, indicating low to moderate convergent validity across self-, parent- and friend-perspectives (mean  $r = .19$ ,  $.15$ , and  $.34$  for self-effacement, other-enhancement, and avoidance of attention-seeking, respectively). The agreement across different perspectives ranged from low coefficients of  $.12$ ,  $.13$ , and  $.15$  for self-effacement and other-enhancement to moderate coefficients of  $.41$ ,  $.34$ , and  $.26$  for avoidance of attention-seeking.

Second, the mean convergent validity coefficients were higher than the mean heterotrait-

heteromethod correlations for all three factors of modest behaviour (mean  $r = .14$ ,  $.08$ , and  $.15$  for self-effacement, other-enhancement, and avoidance of attention-seeking, respectively), indicating discriminant validity of the three factors. In addition, an inspection of the heterotrait triangles (i.e., the correlations among three factors of modest behaviour from the same perspective and across different perspectives) in the MTMM matrix revealed that there was a similar pattern of interrelationship among the three factors of modest behaviour, adding further support to the conclusion of discriminant validity. Among all heterotrait triangles, correlations between self-effacement and avoidance of attention-seeking consistently exceeded the other two pairs of correlations.

Finally, monotrait-heteromethod correlations were expected by conventional standards to exceed heterotrait-monomethod correlations, further demonstrating discriminant validity. However, similar to previous studies investigating individual differences (Campbell & Fiske, 1959), the convergent validity coefficients (overall mean  $r = .23$ ) did not exceed the heterotrait-monomethod correlations (overall mean  $r = .37$ ; mean  $r = .39$ ,  $.31$ , and  $.42$  for self-effacement, other-enhancement, and avoidance of attention-seeking, respectively). Campbell and Fiske (1959) found that monotrait-heteromethod coefficients are often smaller than heterotrait-monomethod coefficients, because the impact of shared method is so potent. They suggested that this outcome was likely typical in the field of individual differences. Campbell and O'Connell (1982) also noted that this criterion was overly stringent since convergent validity would be attenuated by the non-shared method variance created by the use of different methods to assess the same trait. Moreover, trait effects (three factors of modest behaviour) and method effects (three perspectives) may interact with each other in a multiplicative way, further increasing heterotrait-monomethod correlations.

Overall, the analysis of the MTMM correlation matrix provided support for the convergent and discriminant validity of the behavioural profile of modesty. Nonetheless, correlation basically addresses the issue of rank-order consistency, tracking whether responses to a

particular trait are in the same order across different perspectives (e.g., self-, parent- and friend-reports). Therefore, scores by different raters on a trait can be highly correlated with one another but show little agreement in levels. In that case, a behavioural composite across raters may not be appropriate. We thus went beyond rank-order consistency to examine absolute agreement of three factors of modest behaviour across three perspectives by intraclass correlation (ICC).

Three sets of two-way mixed model intraclass correlations were conducted. We found that the inter-perspective agreement in the three factors of modest behaviour was moderate (ICC = .40, .33, and .60 for self-effacement, other-enhancement, and avoidance of attention-seeking, respectively). Taking the findings of MTMM correlations and ICC together, modest behaviours were correlated across self-, parent- and friend-perspectives but not identical, indicating that parent- and friend-perspectives on participants' modest behaviour added extra and relevant information to assess this inherently social behaviour.

Then we conducted a series of repeated measures ANOVAs to compare the means of three factors of modest behaviour across the three perspectives, so as to examine the discrepancy of self- and other-ratings for each factor. Significant differences across perspectives were found in self-effacement and other-enhancement, but not in avoidance of attention-seeking. Specifically, for self-effacement, self-ratings ( $M = 3.25$ ,  $SD = 0.47$ ) were significantly higher than friend- ( $M = 3.09$ ,  $SD = 0.46$ ) and parent-ratings ( $M = 3.10$ ,  $SD = 0.40$ ),  $F(2, 344) = 8.53$ ,  $p < .001$ , with no significant difference between the latter two,  $p > .05$ . As for other-enhancement, mean ratings across the three perspectives were significantly different from each other,  $F(2, 344) = 6.35$ ,  $p < .01$ , with self-ratings ( $M = 3.82$ ,  $SD = 0.29$ ) higher than friend-ratings ( $M = 3.79$ ,  $SD = 0.40$ ), which were in turn higher than parent-ratings ( $M = 3.69$ ,  $SD = 0.48$ ).

As in Studies 1 and 2, three sets of hierarchical regression analyses were conducted to predict the three factors of modest behaviour (see Table 7). The results of MTMM and ICC lent support to constructing a behavioural profile to capture the cross-situational variability of modesty. We thus computed a composite of each factor by averaging self-, parent- and friend-

ratings. Trait modesty was entered into the second block, while the significant predictors shown in Study 1 were entered into the third block <sup>2</sup>. Finally, interaction terms between cultural group and social axioms were entered into the fourth block to examine possible moderating effects <sup>3</sup>. We also examined tolerance statistic and VIF. They all fell within the acceptable range, indicating that multicollinearity was not present in these regression analyses.

*Self-effacement.* With the composite of self-effacement as a criterion variable, the sample multiple correlation coefficient was .56, and the regression model explained 31.1% of the variance in self-effacement,  $F(6, 164) = 12.35, p < .001$ . None of the demographic variables or interaction effects were significant,  $p > .05$ . As hypothesised, trait modesty significantly and positively predicted self-effacement. Surprisingly, neither social cynicism nor reward for application was a significant predictor of self-effacement,  $p > .05$ .

*Other-enhancement.* With the composite of other-enhancement as a criterion variable, the sample multiple correlation coefficient was .45, and 20.4% of total variance in other-enhancement was accounted for by the regression model,  $F(9, 161) = 4.57, p < .001$ . None of the demographic variables was significant, except for cultural group, with Mainland Chinese more other-enhancing than Hong Kong Chinese. Trait modesty positively predicted other-enhancement, though it did not reach the significance level,  $p > .05$ . Aligned with our hypotheses and Study 1, other-enhancement was negatively predicted by social cynicism, and positively predicted by reward for application, social complexity, and religiosity. In addition, culture moderated the effect of religiosity on other-enhancement, with stronger effects on Mainland Chinese than Hong Kong Chinese <sup>4</sup>.

*Avoidance of attention-seeking.* With the composite of avoidance of attention-seeking as a criterion variable, the sample multiple correlation coefficient was .52, indicating that the regression model accounted for 26.6% of the total variance in avoidance of attention-seeking,  $F(7, 163) = 8.45, p < .001$ . None of the demographic variables or interaction effects reached significance,  $ps > .05$ . Supporting our hypotheses, avoidance of attention-seeking was

significantly and positively predicted by trait modesty, and negatively predicted by social cynicism.

To sum up the regression results, we found significant effects of trait modesty as a domain-specific self-view on self-effacement and avoidance of attention-seeking, after controlling for age, gender, and cultural group. Among social axioms, social cynicism negatively predicted other-enhancement and avoidance of attention-seeking. Reward for application, social complexity, and religiosity predicted other-enhancement positively. The interaction effect of cultural group and religiosity predicted other-enhancement significantly, but should be interpreted with caution.

### **General Discussion**

In the present research, worldviews explained additional variance in modest behaviour over and above self-views in both Eastern and Western cultural contexts and in behaviour profiles that included the perspectives of parents and close friends. Our use of MTMM and ICC analyses to evaluate social criterion variables extended their conventional functions of testing construct validity and interrater reliability, and identified additional tools for constructing dynamic behavioural profiles incorporating multiple perspectives. Across the three studies, self-effacement was negatively predicted by self-efficacy (Studies 1 and 2) and independent self-construal (Study 1), and positively predicted by interdependent self-construal (Study 2) and trait modesty (Study 3). It was also positively predicted by two axiom factors, viz., social cynicism (Studies 1 and 2) and reward for application (Study 1). Other-enhancement was positively predicted by interdependent self-construal (Studies 1 and 2), reward for application, social complexity, and religiosity (Studies 1 and 3), but negatively predicted by social cynicism (Studies 1 and 3) and fate control (Study 2). Avoidance of attention-seeking was positively predicted by interdependent self-construal (Studies 1 and 2) and trait modesty (Study 3), as well as social complexity and religiosity (Study 1), but negatively predicted by self-efficacy (Study 2), social cynicism (Studies 1 and 3), and fate control (Study 2).

### **The Added Value of Social Axioms**

Overall, social axioms were found to significantly predict modest behaviour over and above self-efficacy, self-construals, and trait modesty, demonstrating the added value of worldviews to self-views across cultures. Though measures of modest behaviour included additional items in Study 2, preventing a pooled analysis, we can still summarise some common patterns across the three studies.

Culturally embedded self-views play an important role in the prediction of social behaviour. Consistent with our hypotheses, independent self-construal negatively predicted self-effacement in the collectivistic cultures, whereas interdependent self-construal was positively related to other enhancement and avoidance of attention-seeking in both cultures. Interestingly, we further found that interdependent self-construal was positively related to self-effacement in the Western context of Study 2. People in Western contexts also make efforts to efface themselves, avoid attention-seeking, and elevate others, if they have a strong interdependent orientation, with the goal of accommodating themselves to the states and needs of others. Conversely, those with a strong independent orientation are less likely to denigrate themselves in Chinese context, and yet this relationship is not present in Western context. Self-effacement is a default strategy to avoid offending others in collectivistic cultures, but this tendency can be reversed when the situation demands otherwise (Yamagishi et al., 2012). Consistency of dispositional modesty is subject to situational influences in the social environment, and examining it in different cultural contexts expands the predictive framework.

Both self-efficacy and reward for application reflect beliefs about human agency (Hui & Hui, 2009). What differentiates the two constructs is the target object, with self-efficacy referring to the self but reward for application referring to how the world operates. Since perceived personal competence and agency inhibit modest behaviour, it is understandable to find self-efficacy negatively predicted self-effacement in both Chinese and Western contexts. Reward for application accounted for additional variance in other-enhancement over and above



self-views in the two Chinese groups, further confirming distinctive contributions of social beliefs. Modest behaviour is a goal-oriented self-presentation. Believing that the world is responsive to conscious efforts leading to rewards facilitates goal attainment using other-enhancing behaviour as an impression management strategy.

Likewise, believing in multiple solutions to a given outcome, social complexity, calls for variation in self-presentation tactics, using the strategy of ingratiation. Social complexity thus positively predicted other-enhancement in Chinese culture. The positive associations of other-enhancement with reward for application and social complexity were supported in both Studies 1 and 3, but those of self-effacement with reward for application and those of avoidance of attention-seeking with and social complexity were confirmed in Study 1, not Study 3. Though both Studies 1 and 3 were conducted in Chinese context, Study 3 used behavioural composites as dependent variables (DVs) and trait modesty as the self-view. This trait may be more directly manifested in the behaviours of self-effacing and avoiding attention-seeking, and thus account for more variance in these two DVs, leaving less for social axioms to explain.

Among the five axioms, social cynicism was the most significant contributor across the three studies. It positively predicted self-effacement in both Chinese and Canadian groups in Studies 1 and 2, but not Study 3, and negatively predicted other-enhancement and avoidance of attention-seeking in the Chinese groups. With lower self-esteem (Neto, 2006), social cynics were prone to self-effacing behaviour in both Chinese and Western cultures. Social cynics' lack of interpersonal trust decreases their motivation to enhance others. They are more likely to efface themselves and yet less likely to avoid attention-seeking, which may appear paradoxical, but it is possible that there are different ways to attract attention in social contexts. People can display their achievements and positive attributes to distinguish themselves, or perform humble acts to show they are friendly and approachable, especially in collectivistic cultures. Social cynics may choose the latter as a strategy to disguise themselves due to their negative view of human nature and biased assessment of social events. In Study 3, however, trait modesty is a

strong predictor of self-effacing behaviour, weakening the effects of social axioms in the regression model.

Though we did not make predictions on fate control, it is perplexing to find that fate control predicted other-enhancement and avoidance of attention-seeking negatively in the Canadian samples. As fate control is not related to active coping but suggests a more passive approach to living (Hui & Hui, 2009), perhaps such individuals do not actively exercise control over others or avoid others' attention. They may behave naturally without purposeful manoeuvring, since they anticipate that outcomes are fated anyway. On the other hand, the bivariate correlation analyses show that fate control was negatively associated with other-enhancement in East-Asian Canadians but not European Canadians, and with avoidance of attention-seeking in Mainland Chinese but not Hong Kong Chinese. Thus, the effects of fate control appear to vary across cultural groups; suppression might also have occurred in the regression analyses. Future research may further test this linkage between fate control and modest behaviour in other cultural samples and identify mediators to unpack the underlying mechanisms.

### **Multiple Perspectives on Modest Behaviour**

Previous studies have found that self-perceptions of personality and behaviour converge moderately with perceptions by others, especially well-acquainted others (e.g., Connolly, Kavanagh, & Viswesvaran, 2007; Kenny, 1994; McCrae & Stone, 1998). Close others are even more accurate than the self while judging highly evaluative traits and observable behaviour (Vazire & Carlson, 2011); thus, incorporating self-perceptions and others' perceptions in the operationalization of social behaviour is more reflective of the "kernel of truth." In our MTMM correlation matrix for the three factors of modest behaviour, most of the monotrait-heteromethod correlations were statistically significant, suggesting that there is rank-order consistency across self-, parent-, and friend-ratings of participants' modest behaviour. Intraclass correlations further indicated adequate levels of absolute agreement on the three factors across these three

perspectives. The MTMM and ICC results reflect the coherence of dispositional modesty.

The complexity of modest behaviour is manifested in the magnitude of MTMM and ICC coefficients across different factors and different perspectives. The MTMM and ICC coefficients for avoidance of attention-seeking across self-parent, self-friend, and parent-friend correlations were higher than those for self-effacement and other-enhancement. The tendency to moderate one's actions and appearance to shield oneself from public attention and avoid making self-aggrandizing descriptions in front of others is consistently perceived by the self and close others, whereas self-effacement and other-enhancement are relatively more target-specific and involve more discriminating action rather than merely and routinely avoiding attention. By downplaying their positive attributes and accomplishments or distracting attention by praising others, people can reduce the social risk of offending others, ingratiate themselves and generate affirmative and positive responses from them (e.g., Cialdini & De Nicholas, 1989; Zuckerman, 1979).

For each factor of modest behaviour, self-friend coefficients of MTMM and ICC were higher than self-parent coefficients and in turn higher than parent-friend coefficients. Since participants were university students, their peers had more opportunities to observe the participants' behaviour than did participants' parents and thus produced more convergent ratings. Mean comparisons of self-, parent-, and friend-ratings showed that self-ratings were significantly higher than parent- and friend-ratings in self-effacement, whereas parent-ratings were significantly lower than self- and friend-ratings in other-enhancement. In other words, participants might downplay their positive attributes and accomplishments on other occasions more than in close relationships, and ingratiate themselves to friends and others more than to their own parents (see also Bond et al., 2012, for similar target effects). In Chinese culture, people appreciate individuals who abase themselves more than those who boast about their performance (Bond, Leung, & Wan, 1982). Individuals exhibit modest responding explicitly due to cultural mandates (Cai et al., 2011; Yamagishi et al., 2012), but such normative constraints may be more relaxed in front of family members and close friends than in public. The inclusion

of multiple perspectives enriches our understanding of the multi-faceted, dynamic nature of social behaviour, highlighting the importance of the role context for its enactment (McAuley, Bond, & Kashima, 2002).

Nevertheless, the present research has the following limitations: First, the sampling of university students in all four cultural groups, which limits the generalizability of the findings to non-student populations. The issue of sampling people living in WEIRD (Western, educated, industrialised, rich, and democratic) societies for psychological studies has been repeatedly raised by researchers (Henrich, Heine, & Norenzayan, 2010). The inclusion of parent ratings and Chinese-context participants in this research has extended the sampling to some degree, but the focus is still on university student participants. Second, as humility is listed as one of the 24 character strengths and affiliated to the temperance category, denoting strengths that protect against excess (Peterson & Seligman, 2004), modesty is also regarded as a virtue. Though confidentiality was emphasised during data collection and participants' supervisors were not present when they filled out the questionnaires, ratings of modest behaviour from the self and close others may be subject to social desirability bias. Third, across the three studies, we observe apparent overall weaker effects for the Canadian sample. After all, the modesty norm is more salient in Eastern than Western societies. These limitations call for more rigorous assessment of objective behavioural criteria. Future research may recruit community samples in Western countries and adopt experimental designs to measure actual modest behaviour.

### **Concluding Remarks**

Triandis (1989) outlined three aspects of the self in relation to behaviour in cultural contexts, viz., private self, collective self, and public self. Accordingly, these different aspects of the self are manifested in multi-faceted representations of personality and social behaviour, viz. personal, relational, and public. The three factors of modest behaviour embody these three aspects as behavioural manifestations of trait modesty: self-effacement refers to self-initiated acts, other-enhancement stems from other-oriented motives, and avoidance of attention-seeking

point to behaviours in public settings. Though they are under the same umbrella of modest behaviour, their intercorrelations vary within and across different cultural groups, revealing the complexity of individual behaviour in social and cultural contexts. The multiplex nature of social behaviour entails inclusive, dynamic, and versatile assessment methods and predictive frameworks. The present research is one of such attempts that may provide conceptual and methodological implications for future work on personality and social behaviour.

## References

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Baumeister, R. F. & Jones, E. E. (1978). When self-presentation is constrained by the target's knowledge: Consistency and compensation. *Journal of Personality and Social Psychology*, 36, 608-618.
- Berry, J. W. (1969). On cross-cultural comparability. *International Journal of Psychology*, 4, 119-128.
- Berry, J. W. (1989). Imposed etics – emics – derived etics: The operationalisation of a compelling idea. *International Journal of Psychology*, 24, 721-735.
- Biesanz, J. C. & West, S. G. (2004). Towards understanding assessments of the Big Five: Multitrait-Multimethod analyses of convergent and discriminant validity across measurement occasion and type of observer. *Journal of Personality*, 72, 845-876.
- Bond, M. H., Leung, K., Au, A., Tong, K. –K., & Chemonges-Nielson, Z. (2004). Combining social axioms with values in predicting social behaviours. *European Journal of Personality*, 18, 177-191.
- Bond, M. H., Leung, K., & Wan, K., C. (1982). The social impact of self-effacing attributions: The Chinese case. *The Journal of Social Psychology*, 118, 157-166.
- Bond, M. H., Lun, V. M.-C., Chan, J., Chan, W. W.-Y., & Wong, D. (2012). Enacting modesty in Chinese culture: The joint contribution of personal characteristics and contextual features. *Asian Journal of Social Psychology*, 15, 14–25.
- Cai, H., Sedikides, C., Gaertner, L., Wang, C., Carvallo, M., Xu, Y., O'Mara, E. M., & Jackson, L. E. (2011). Tactical self-enhancement in China: Is modesty at the service of self-enhancement in East-Asian culture? *Social Psychological and Personality Science*, 2, 59-64.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the

- multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81–105.
- Campbell, D. T., & O'Connell, E. J. (1982). Methods as diluting trait relationships rather than adding irrelevant systematic variance. In D. Brinberg & L. Kidder (Eds.), *Forms of validity in research* (pp. 93–111). San Francisco: Jossey-Bass.
- Carlson, D. E., & Shovar, N. (1983). Effects of performance attributions on others' perceptions of the attributor. *Journal of Personality and Social Psychology*, 44, 515-525.
- Chen, S. X., Benet-Martinez, V., & Bond, M. H. (2008). Bicultural identity, bilingualism, and psychological adjustment in multicultural societies: Immigration-based and globalization-based acculturation. *Journal of Personality*, 76, 803-838.
- Chen, S. X., Bond, M. H., Chan, B., Tang, D., & Buchtel, E. E. (2009). Behavioral manifestations of modesty. *Journal of Cross-Cultural Psychology*, 40, 603-626.
- Chen, S. X., Bond, M. H., & Cheung, F. M. (2006). Personality correlates of social axioms: Are beliefs nested within personality? *Personality and Individual Differences*, 40, 509-519.
- Chen, S. X., Cheung, F. M., Bond, M. H., & Leung, J. P. (2005). Decomposing the construct of ambivalence over emotional expression in a Chinese cultural context. *European Journal of Personality*, 19, 185-204.
- Chen, S. X., Cheung, F. M., Bond, M. H., & Leung, J. P. (2006). Going beyond self-esteem to predict life satisfaction: The Chinese case. *Asian Journal of Social Psychology*, 9, 24-35.
- Chen, S. X., Fok, H. K., Bond, M. H., & Matsumoto, D. (2006). Personality and beliefs about the world revisited: Expanding the nomological network of social axioms. *Personality and Individual Differences*, 41, 201-211.
- Chen, S. X., Lam, B. C. P., Wu, W. C. H., Ng, J. C. K., Buchtel, E. E., Guan, Y., & Deng, H. (2016). Do people's worldviews matter? The why and how. *Journal of Personality and Social Psychology*, 110, 743-765.
- Cialdini, R. B., & De Nicholas, M. E. (1989). Self-presentation by association. *Journal of Personality and Social Psychology*, 57, 626-631.

- Connolly, J. J., Kavanagh, E. J., & Viswesvaran, C. (2007). The convergent validity between self and observer ratings of personality: A meta-analytic review. *International Journal of Selection and Assessment*, 15, 110–117.
- Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI) Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Duckitt, J., Wagner, C., du Plessis, I., & Birum, I. (2002). The psychological bases of ideology and prejudice: Testing a dual process model. *Journal of Personality and Social Psychology*, 83, 75–93.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117-140.
- Fisher, R. A. (1954). *Statistical methods for research workers* (12<sup>th</sup> ed). Edinburgh: Oliver and Boyd.
- Gaertner, L., Sedikides, C., & Cai, H. (2012). Wanting to be great and better but not average: On the pancultural desire for self-enhancing and self-improving feedback. *Journal of Cross-Cultural Psychology*, 43, 521-526.
- Gudykunst, W. B., Matsumoto, Y., Ting-Toomey, S., Nishida, T., Kim, K., & Heyman, S. (1996). The influence of cultural individualism-collectivism, self-construals, and individual values on communication styles across cultures. *Human Communication Research*, 22, 510-543.
- Hall, E. T. (1976). *Beyond culture*. New York: Doubleday Dell.
- Heine, S. J. (2001). Self as cultural product: An examination of East Asian and North American selves. *Journal of Personality*, 69, 881-906.
- Heine, S. J., & Hamamura, T. (2007). In search of East Asian self-enhancement. *Personality and Social Psychology Review*, 11, 4-27.
- Heine, S. J., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review*, 106, 766-794.



- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). Beyond WEIRD: Towards a Broad-based Behavioral Science. *Behavioral and Brain Sciences*, 33, 111-135.
- Hui, C.-M., & Hui, N. H.-H. (2009). The mileage from social axioms: Learning from the past and looking forward. In K. Leung & M. H. Bond (Eds.), *Psychological aspects of social axioms: Understanding global belief systems* (pp. 13-30). New York: Springer SBM.
- Jones, J. M. (1972). *Prejudice and racism*. Reading, MA: Addison-Wesley.
- Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. New York: Guilford Press.
- Koltko-Rivera, M. E. (2004). The psychology of worldviews. *Review of General Psychology*, 8, 3-58.
- Kurman, J. (2001). Self-enhancement: Is it restricted to individualistic cultures? *Personality and Social Psychology Bulletin*, 27, 1705-1716.
- Kurman, J. (2003). Why is self-enhancement low in certain collectivist cultures: An investigation of two competing explanations. *Journal of Cross-Cultural Psychology*, 34, 496-510.
- Kurman, J., Yoshihara-Tanaka, C., & Elkoshi, T. (2003). Is self-enhancement negatively related to constructive self-criticism? *Journal of Cross-Cultural Psychology*, 34, 24-37.
- Lai, J. H., Bond, M. H., & Hui, N. H. (2007). The role of social axioms in predicting life satisfaction: A longitudinal study in Hong Kong. *Journal of Happiness Studies*, 8, 517-535.
- Lam, B. C. P., Bond, M. H., Chen, S. X., & Wu, C. H. (2010). Examining the main and moderating effects of worldviews on suicide: The role of social axioms. *European Journal of Personality*, 24, 602-622.
- Lerner, M. J. (1980). *The belief in a just world: A fundamental delusion*. New York: Plenum.
- Leung, K., & Bond, M. H. (2004). Social axioms: A model for social beliefs in multi-cultural perspective. *Advances in Experimental Social Psychology*, 36, 119-197.

- Leung, K., & Bond, M. H. (2008). Psycho-logic and eco-logic: Insights from social axiom dimensions. In F. van de Vijver, D. van Hemert, & Y. P. Poortinga (Eds.), *Individuals and cultures in multilevel analysis* (pp. 197-219). Mahwah, NJ: Erlbaum.
- Leung, K., & Bond, M. H. (Eds.) (2009). *Psychological aspects of social axioms: Understanding global belief systems*. New York: Springer SBM.
- Leung, K., Bond, M. H., Reimel de Carrasquel, S., Muñoz, C., Hernández, M., Murakami, F., Yamaguchi, S., Bierbrauer, G., & Singelis, T. M. (2002). Social axioms: The search for universal dimensions of general beliefs about how the world functions. *Journal of Cross-Cultural Psychology*, 33, 286-302.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253.
- McAuley, P., Bond, M. H., & Kashima, E. (2002). Towards defining situations objectively: A culture-level analysis of role dyads in Hong Kong and Australia. *Journal of Cross-Cultural Psychology*, 33, 363-380.
- Mearns, J., Patchett, E., and Catanzaro, S. J. (2009). Multitrait-multimethod validation of the Negative Mood Regulation Scale. *Journal of Research in Personality*, 43, 910-913.
- McCrae, R. R., & Stone, S. V. (1998). Identifying causes of disagreement between self-reports and spouse ratings of personality. *Journal of Personality*, 66, 285-313.
- Neto, F. (2006). Dimensions and correlates of social axioms among a Portuguese sample. *Individual Differences Research*, 4, 340-351.
- Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of Personality and Social Psychology*, 74, 1197-1208.
- Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. New York: Oxford University Press and Washington, DC: American Psychological Association.
- Rotter, J. B. (1954). *Social learning and clinical psychology*. New York: Prentice-Hall.

- Rotter, J. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80, 1-28.
- Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.
- Simon, L., Greenberg, J., & Brehm, J. (1995). Trivialization: The forgotten mode of dissonance reduction. *Journal of Personality and Social Psychology*, 68, 247-260.
- Singelis, T. M., Bhawuk, D. P. S., Gabrenya Jr., W. K. Gelfand, M., Harwood, J., Her, P., Tanaka-Matsumi, J., & Vandello, J. (2009). Exploring ethnic group and geographical differences for social axioms in the USA. In K. Leung & M. H. Bond (Eds.), *Beliefs around the world: Advancing research on social axioms* (pp. 81-93). New York, NY: Springer.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103, 193-210.
- Thompson, R., & Zuroff, D. C. (2004). The Levels of Self-Criticism Scale: Comparative self-criticism and internalized self-criticism. *Personality and Individual Differences*, 36, 419-430.
- Triandis, H. C. (1989). Self and social behavior in differing cultural contexts. *Psychological Review*, 96, 269-289.
- Vazire, S., & Carlson, E. N. (2011). Others sometimes know us better than we know ourselves. *Current Directions in Psychological Science*, 20, 104-108.
- Yamagishi, T., Hashimoto, H., Cook, K. S., Kiyonari, T., Shinada, M., Mifune, N., Inukai, K., Takagishi, H., Horita, Y., & Li, Y. (2012). Modesty in self-presentation: A comparison between the USA and Japan. *Asian Journal of Social Psychology*, 15, 60-68.
- Zuckerman, M. (1979). Attribution of success and failure revisited, or: The motivational bias is alive and well in attribution theory. *Journal of Personality*, 47, 245-287.

## Footnotes

<sup>1</sup> The reliability coefficients of some axiom dimensions were relatively low. This is a persistent problem with measures of cultural differences. The development of social axioms was intended to encompass a wide range of belief items suitable for different cultural systems (Singelis et al., 2009). The breadth of these constructs compromised their internal consistency, such that the inter-correlations between items might be relatively weak within a given scale (Leung & Bond, 2004).

<sup>2</sup> We also tried three sets of hierarchical regression analyses, with all five factors of social axioms as predictors. The results remained unchanged except that social cynicism became a marginally significant predictor of avoidance of attention-seeking ( $\beta$  dropped from -.18 to -.14).

<sup>3</sup> In the three studies, we included all possible interaction terms in all the regression analyses. Specifically, among all the possible interaction terms to predict other-enhancement in Study 3, only the interaction between culture and religiosity was significant. Hence, we excluded the non-significant interaction terms for the sake of parsimony, and reported the final regression model with the significant interaction only. After controlling for the significant interaction, the regression coefficients are reported in Table 7.

<sup>4</sup> A-priori power analysis has been conducted; we assume that the overall  $R^2$  reflects a medium effect size and estimate the required sample size to achieve statistical power of at least 80% with  $\alpha = 0.05$ . Given the varied number of predictors in the regression models, the required sample size for the main effects varies from 98 to 123. Hence, in general, the sample size in all the regression models across three studies ( $N = 450, 156$ , and  $171$ ) should provide adequate statistical power in estimation. Another a-priori power analysis for the interaction effect was conducted; with the assumed small effect size in interaction effect, a sample size of 395 is required to achieve statistical power of at least 80% with  $\alpha = 0.05$ . Clearly, Study 1, but not Studies 2 and 3, is able to provide estimation for interaction effect with adequate

statistical power. Therefore, the interaction effect found in Study 3 may not be trustworthy enough and needs to be interpreted with caution. Further studies should be conducted to replicate the results, given that Study 1 had more statistical power but still could not find a significant interaction effect.

Table 1

*Means, Standard Deviations, Reliability Coefficients, and Correlations with Modest Behaviour in Study 1*

Measure	Mainland Chinese (N = 199)						Hong Kong Chinese (N = 206)					
	Mean	SD	Alpha	1	2	3	Mean	SD	Alpha	1	2	3
1. Self-effacement	2.74	.65	.75	-			3.13	.58	.73	-		
2. Other-enhancement	3.70	.39	.71	-.16*	-		3.65	.48	.84	-.04	-	
3. Avoidance of attention-seeking	3.53	.41	.68	.28***	.17*	-	3.47	.46	.75	.31***	.40***	-
4. Self-Efficacy	2.65	.45	.81	-.22**	.09	-.18*	2.51	.49	.88	-.20**	.13	-.11
5. Independence	5.07	.64	.76	-.22**	.06	-.07	5.04	.56	.76	-.12	.06	.01
6. Interdependence	5.03	.62	.78	.05	.38***	.12	5.14	.53	.77	.03	.38***	.23**
7. Social Cynicism	3.01	.46	.80	.19**	-.14	-.27***	3.12	.39	.74	.13	-.15*	-.16*
8. Reward for Application	3.44	.46	.76	.07	.37***	.13	3.71	.36	.69	.08	.27***	.09
9. Social Complexity	4.03	.34	.60	-.06	.25***	.05	4.16	.27	.59	.08	.16*	.13
10. Fate Control	2.85	.52	.59	.04	-.10	-.24**	3.00	.52	.61	.13	-.01	-.05
11. Religiosity	3.00	.58	.71	-.07	.00	-.02	3.27	.68	.83	.20**	.13	.24***

Note: \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 2

*Hierarchical Regression Analysis for Variables Predicting Modest Behaviour in Study 1 (N = 405)*

Variable	Self-Effacement			Other-Enhancement			Avoidance of Attention-Seeking		
	Block 1 $\beta$	Block 2 $\beta$	Block 3 $\beta$	Block 1 $\beta$	Block 2 $\beta$	Block 3 $\beta$	Block 1 $\beta$	Block 2 $\beta$	Block 3 $\beta$
Age	.00	-.02	-.04	.06	.06	.06	-.01	-.02	-.02
Gender (0=male, 1=female)	.01	-.03	-.02	-.07	-.09	-.11*	-.03	.09	-.11*
Culture (0=Mainland, 1=HK)	.31***	.27***	.19***	.05***	.08	.16**	-.07	.12*	.14**
Self-Views									
Self-Efficacy		-.17**	-.16**		.07	.04		-.18**	-.20***
Independence		-.11*	-.16**		.00	-.02		.01	.02
Interdependence		.07	.06		.38***	.29***		.20***	.14**
Worldviews									
Social Cynicism			.20***			-.12*			-.20***
Reward for Application			.14*			.17**			.05
Social Complexity			-.03			.15**			.12*
Fate Control			.04			-.01			-.09
Religiosity			.08			.10*			.14**
R <sup>2</sup>	.09	.09	.20	.01	.16	.23	.01	.07	.15
df	3/401	6/398	11/393	3/401	6/398	11/393	3/401	6/398	11/393
F change	13.72***	11.50***	5.28***	1.31	23.63***	6.83***	.94	8.54***	7.16***

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 3

*Means, Standard Deviations, Reliability Coefficients, and Correlations with Modest Behaviour in Study 2*

Measure	East-Asian Canadians (N = 79)						European Canadians (N = 77)					
	Mean	SD	Alpha	1	2	3	Mean	SD	Alpha	1	2	3
1. Self-effacement	3.14	.54	.71	-			2.94	.54	.67	-		
2. Other-enhancement	3.79	.37	.67	-.01	-		3.66	.44	.72	.23*	-	
3. Avoidance of attention-seeking	3.43	.49	.70	.19	.36**	-	3.40	.49	.71	.52***	.13	-
4. Self-Efficacy	2.94	.42	.84	-.27*	.32**	-.12	3.11	.39	.83	-.42***	-.01	-.29*
5. Independence	5.33	.59	.76	-.01	.24*	-.08	5.39	.56	.76	-.18	.07	-.21
6. Interdependence	5.33	.62	.83	.25*	.34**	.06	5.03	.62	.82	.24*	.46***	.29*
7. Social Cynicism	2.66	.42	.75	.20	-.19	-.23*	2.50	.50	.75	.06	-.12	-.04
8. Reward for Application	3.54	.42	.61	.04	.16	-.14	3.48	.42	.59	.01	-.02	.05
9. Social Complexity	4.18	.36	.57	.01	.13	.08	4.25	.33	.58	-.04	.22	.00
10. Fate Control	2.35	.60	.55	.21	-.32**	-.29	2.25	.60	.64	-.16	-.20	-.22
11. Religiosity	3.07	.77	.83	-.05	-.11	.14	2.68	.77	.81	.02	-.11	.09

Note: \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



Table 4

*Hierarchical Regression Analysis for Variables Predicting Modest Behaviour in Study 2 (N = 156)*

Variable	Self-Effacement			Other-Enhancement			Avoidance of Attention-Seeking		
	Block 1	Block 2	Block 3	Block 1	Block 2	Block 3	Block 1	Block 2	Block 3
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
Age	-.01	-.01	-.01	-.05	-.03	-.03	.13	.12	.13
Gender	.03	-.03	-.01	-.01	-.01	-.01	-.01	-.06	.04*
Culture	-.18*	-.05	-.01	-.15	-.09*	-.14	-.05	.03	.04
Self-Views									
Self-Efficacy		-.36***	-.36***		.16	.14		-.16	-.20*
Independence		.03	-.02		.00	-.03		-.09	-.09
Interdependence		.23**	.26**		.41***	.39***		.19*	.16
Worldviews									
Social Cynicism			.18*			-.06			-.01
Reward for Application			.09			.03			.05
Social Complexity			-.03			.05			.05
Fate Control			-.05			-.21**			-.31***
Religiosity			-.03			-.07			.15
R <sup>2</sup>	.03	.20	.24	.03	.21	.27	.02	.09	.19
df	3/152	6/149	11/144	3/152	6/149	11/144	3/152	6/149	11/144
F change	1.74	10.30***	1.36	1.47	11.38***	2.40*	.84	4.21**	3.51**

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 5

*Means, Standard Deviations, Reliability Coefficients, and Multitrait-Multimethod Correlations Matrix of Modest Behaviours in Study 3 (N = 173)*

	Self-rating			Parental-rating			Friend-rating		
	SE	OE	AA	SE	OE	AA	SE	OE	AA
Self-rating									
Self-effacement (SE)	(.69)								
Other-enhancement (OE)	.06 <sup>c</sup>	(.68)							
Avoidance of attention-seeking (AA)	.52**, <sup>c</sup>	.20**, <sup>c</sup>	(.76)						
Parent-rating									
Self-effacement	<b>.21**</b> , <sup>a</sup>	-.00 <sup>b</sup>	.18*, <sup>b</sup>	(.46)					
Other-enhancement	.03 <sup>b</sup>	<b>.13†</b> , <sup>a</sup>	.00 <sup>b</sup>	.34**, <sup>c</sup>	(.88)				
Avoidance of attention-seeking	.19*, <sup>b</sup>	.03 <sup>b</sup>	<b>.34**</b> , <sup>a</sup>	.44**, <sup>c</sup>	.38**, <sup>c</sup>	(.81)			
Friend-rating									
Self-effacement	<b>.23**</b> , <sup>a</sup>	-.00 <sup>b</sup>	.26**, <sup>b</sup>	<b>.12<sup>a</sup></b>	.02 <sup>b</sup>	.18*, <sup>b</sup>	(.67)		
Other-enhancement	.21**, <sup>b</sup>	<b>.15†</b> , <sup>a</sup>	.24**, <sup>b</sup>	.15*, <sup>b</sup>	<b>.18*</b> , <sup>a</sup>	.18*, <sup>b</sup>	.42**, <sup>c</sup>	(.85)	
Avoidance of attention-seeking	.26**, <sup>b</sup>	.06 <sup>b</sup>	<b>.41**</b> , <sup>a</sup>	.23**, <sup>b</sup>	-.02 <sup>b</sup>	<b>.26**</b> , <sup>a</sup>	.57**, <sup>c</sup>	.44**, <sup>c</sup>	(.76)
Mean	3.25	3.82	3.44	3.10	3.69	3.49	3.09	3.79	3.45
SD	0.47	0.29	0.42	0.40	0.48	0.46	0.46	0.40	0.41

Note: †  $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . <sup>a</sup> Monotrait–heteromethod values. <sup>b</sup> Heterotrait–heteromethod values.

<sup>c</sup> Heterotrait–monomethod values. Cronbach's alphas are printed on the main diagonal in parentheses.

Table 6

*Summary of Multitrait-Multimethod Matrix (N = 173)*

	Correlations		
	Monotrait- heteromethod	Heterotrait- heteromethod	Heterotrait- monomethod
Self-effacement	.19	.14	.39
Other-enhancement	.15	.08	.31
Avoidance of attention-seeking	.34	.15	.42
Mean	.23	.13	.37

Table 7

*Hierarchical Regression Analysis for Variables Predicting Modest Behaviour in Study 3 (N = 171)*

Variable	Self-Effacement			Other-Enhancement				Avoidance of Attention-Seeking		
	Block 1	Block 2	Block 3	Block 1	Block 2	Block 3	Block 4	Block 1	Block 2	Block 3
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
Age	-.01	.01	.02	.11	.11	.11	.10	.04	.06	.06
Gender (1=M, 2=F)	-.06	-.04	-.02	.05	.06	.02	.02	-.13	-.11	-.14
Culture (1=Mainland; 2=HK)	.09	.02	.01	-.29***	-.29***	-.30**	-.32***	-.07	-.13	-.11
Self-view (Trait Modesty)		.55***	.54***		.05	.08	.09		.46***	.48***
Worldviews										
Social Cynicism			.08			-.20**	-.24**			-.18*
Reward for Application			-.05			.11	.16*			-
Social Complexity			-			.14†	.16*			-.08
Fate Control			-			-	-			-
Religiosity			-			.02	.30*			-.02
Culture x Religiosity			-				-.33*			-
R <sup>2</sup>	.01	.30	.31	.12	.12	.18	.20	.03	.24	.27
df	3/167	1/166	2/164	3/167	1/166	2/164	1/161	3/167	1/166	2/164
F change	.71	69.64***	.804	7.40***	.53	2.92**	4.86*	1.46	45.44***	2.33†

Note: †  $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .